IN THE CLAIMS:

1.   (Currently Amended) A method for transmitting data in the form of packets, [[each packet including a header and a data field including at least one pseudo-header,]] the method comprising:

generating packets that include a header, a data field, and at least one pseudo-header;

formatting the packet header in accordance with the specifications of [[the one]]a first protocol;

formatting a pseudo-header [[within the data field of the packet]] in accordance with one or more additional constraints, such that the additional constraints substantially satisfy at least one additional procedure in accordance with the first protocol or a different protocol;

The Additional Procedure + the old UDP
Define the new protocol

transmitting a data packet including a segment of data, a header and a pseudo-header to a receiving device;

Approved Constraints

receiving at least one reply packet from the receiving device, formatted in accordance with the [[one]]first protocol; and

determining the validity of the received packet based on at least one additional processing step after reception of the packet in accordance with the [[one]]first protocol.

2.   (Currently Amended) [[A]]The method of claim 1, wherein the data packet transmitted is formatted in accordance with the specifications of User Datagram Protocol (UDP).

3.   (Currently Amended) [[A]]The method of claim 1, wherein the data packet transmitted has a pseudo-header within the data field.

1   4.   (Currently Amended) [[A]]The method of claim 3, wherein the fields of the

2   pseudo-header are generated according to additional constraints.

1   5.   (Currently Amended) [[A]]The method of claim 1, wherein the transmitting in-

2   cludes:

3   transmitting the data packet using Transmission Control Protocol (TCP).

1   6.   (Currently Amended) [[A]]The method of claim 1, wherein the transmitting in-

2   cludes:

3   transmitting the data packet using User Datagram Protocol (UDP).

1   7.   (Currently Amended) [[A]]The method of claim 4, [[where the generating in-

2   cludes:]]including the further step of:

3   generating [[the]]at least one field of the pseudo-header in accordance with ad-

4   ditional constraints.

1   8.   (Currently Amended) A system for transmitting data in a network, the data in-

2   cluding at least one segment transmitted in at least one packet, the system comprising:

3   a memory configured to store instructions; and

4   a processor configured to execute instructions to:

5   generate at least one field of at least one pseudo-header after the protocol

6   header and before the [[protocol]] data field[[; and]], which implements constraints on

7   the formatting of the at least one field of the pseudo-header in such a manner to sub-

8   stantially satisfy requirements for procedures in accordance with a protocol.

1   9.   (Currently Amended) [[A]]The system of claim 8, wherein at least one reply to

2   the transmitted packet is received and processed.

1   10.   (Currently Amended) [[A]]The system of claim 9, wherein the processor per-

2   forms at least one [[additional]]checking step on the pseudo-header contained within the

3   packet data fields upon reception of the reply to the transmitted packet.

1   11.   (Currently Amended) A computer-readable medium having stored thereon a

2   plurality of sequences of instructions, said sequences of instructions including [[instru-

3   citons]]instructions which, when executed by at least one processor, cause said proces-

4   sor to perform the steps of:

5   generating packets having at least one field of a pseudo-header after the protocol

6   header [[and before the protocol data field; and]], which implements [[implementing]]

7   constraints on the formatting of [[the]]at least one field of the pseudo-header in such a

8   manner that desired procedures in accordance with a first protocol or a different proto-

9   col are implemented without requiring additional memory resources to implement such

10   procedures.

1   12.   (Currently Amended) [[A]]The computer-readable medium of claim 11,

2   wherein at least one reply to the transmitted packet is received and processed.

1   13.   (Currently Amended) [[A]]The computer-readable medium of claim 12,

2   wherein the reply received in response to a transmitted packet is verified by performing

3   at least one computation using the pseudo-header field contained within the protocol

4   data field.

1   14.   (Currently Amended) [[A]]The computer-readable medium of claim 11,

2   wherein the transmitting includes:

3   transmitting packets in accordance with the Transmission Control Protocol

4   (TCP).

1   15.   (Currently Amended) [[A]]The computer-readable medium of claim 11,

2   wherein the transmitting includes:

3   transmitting packets in accordance with the User Datagram Protocol (UDP).

1   16.   (Currently Amended) [[a]] The computer-readable medium of claim 12,

2   wherein the reply is received in accordance with the Transmission Control Protocol

3   (TCP).

1   17.   (Currently Amended) [[a]] The computer-readable medium of claim 12,

2   wherein the reply is received in accordance with the User Datagram Protocol (UDP).

1   18.   (Currently Amended) A method of analyzing the header of one protocol in the

2   context of the header of at least one other protocol, the method comprising:

3   identifying the prefix portion of the header of the one protocol that is common

4   with the corresponding prefix portion of the at least one other protocol; and

5   identifying a next portion of the header of the one protocol that differs from the

6   corresponding next portion of the header of the at least one other protocol; and

7   computing at least one constraint that is to be applied to the processes which can

8   generate packets in accordance with the at least one other protocol without requiring

9   additional memory storage resources.

1   19.   (Currently Amended) [[A]]The method of claim 18, wherein the computing of

2   the at least one constraint is done so that the packet generated in accordance with the at

3   least one other protocol with the further addition of the at least one constraint will sat-

4   isfy the requirements of the one protocol.

5

1   20.   (Currently Amended) [[A]]The method of claim 19, wherein the

2   [[the]]computing of the at least one constraint is done so that the packet generated in

3   accordance with the at least one other protocol with the further addition of the at least

4   one constraint will substantially satisfy the requirements of the one protocol.

1   21.   (Currently Amended) A method of transmitting data as data packets, the

2   method comprising:

3   receiving packets formatted in accordance with one protocol; and

4   applying them to the processing procedures designed in accordance with [[an

5   other one]]a different protocol; and *because the response*

6   generating replies to be transmitted in response to the received packets; and

7   transmitting the replies into the network.

1   22.   (Currently Amended) [[A]]The method of claim 21, wherein the one protocol is

2   Transmission Control Protocol (TCP).

1   23.   (Currently Amended) [[A]]The method of claim 22, wherein the one other

2   protocol is User Datagram Protocol (UDP).

1   24.   (Currently Amended) [[A]]The method of claim 21, wherein the one protocol is

2   User Datagram Protocol (UDP).

1   25.   (Currently Amended) [[A]]The method of claim 24, wherein the other one

2   protocol is Transmission Control Protocol (TCP).

1   26.   (Currently Amended) [[A device of claim 20, further comprising:]] A device

2   for implementing the method according to claim 20, comprising:

3   logic configured to receive packets in accordance with at least one protocol;

4   [[and]]

5   logic configured to generate a reply and to transmit the reply into the network in

6   accordance with at least one protocol[[.]]; and

7   logic configured to insert at least one pseudo-header field in the transmitted

8   packet in accordance with at least one additional constraint.

1   27.   (New) A method for transmitting data as defined in claim 1 including the fur-

2   ther step of

3   using said constraints in said pseudo-header to implement at least one procedure

4   in accordance with a desired protocol without having to store a substantial portion of

5   the packet containing that psuedo-header in a memory storage device.

1   28.   (New) The method for transmitting data as defined in claim 1 including the

2   further step of

3   formatting said pseudo-header within the data field of the packet in accordance

4   with one or more additional constraints without requiring additional logic circuitry to

5   perform the steps of the procedures defined by the additional constraints.

1   29.   (New) The method as defined in claim 1 including the further step of

2   formatting said pseudo-header in such a manner that the packet content includes

3   a constraint that substantially satisfies one or more requirements of a different protocol,

4   without requiring additional memory resources.

1   30.   (New) The system as defined in claim 8 further comprising

2   an application layer for implementing an application layer protocol, and said

3   application layer and protocol being modified or altered to allow the application layer

4   or protocol to ignore a specified number of octets of the data field, which are reserved

5   for use by at least one pseudo-header.